

CLAIMS

1 1. Method for preconditioning one or more data tables of a decision application
2 server (1), intended to be processed by a search engine (2) responding to queries for selecting
3 records based on given criteria, sent by the decision application server (1), characterized in
4 that it consists of:

5 - analyze (14) the predicates contained in the fields of the records intended to fill the
6 relational database (6) in accordance with given authorized relations;

7 - create (16) a nomenclature (17) of the predicates from this analysis;

8 - numerically encoding (15) the predicates in accordance with the nomenclature (17),
9 taking the nature of the predicates and the relations to be implemented in the predicates into
10 account in the queries;

11 and in that it consists of presenting the encoded predicates, in the form of a table (10) of
12 numeric values.

1 2. Method according to claim 1, characterized in that the encoding consists of
2 replacing the values of the predicates with their indexes in the nomenclature of possible
3 values.

1 3. Method according to claim 1, characterized in that the encoding compacts the
2 data.

1 4. Method according to any of claims 1 through 3, characterized in that the
2 encoding takes into account the type of query served.

1 5. Method for searching for records in a data table in response to a given query,
2 characterized in that it consists of installing a copy (10) of the table of numeric values
3 obtained via the method according to any of claims 1 through 4, in a machine with vectorial
4 capability (9) performing the processing of the numeric values of the table in accordance with
5 the query served by the decision application server (1).

1 6. Method according to claim 5, characterized in that the query is expressed by
2 one or more vectors representing values searched for in a field, and in that the processing

3 consists of comparing the vector or vectors to all the lines of the table, column by column,
4 saving the line number for each coincidence.

1 7. Method according to claim 6, characterized in that it consists, using all of the
2 line numbers selected and the relational database (6) comprising an additional field
3 containing the number of lines, of extracting from the relational database (6) the plaintext
4 records searched for whose numbers correspond, in response to a query.

1 8. Method according to claim 6 or 7, characterized in that it consists of
2 expressing the results of the processing in statistical form, a synthesis of which is provided in
3 response to a query.

1 9. Method according to any of claims 5 through 8, characterized in that the
2 machine with vectorial capabilities (9) is a supercomputer.

1 10. Search system implemented by a decision application server (1) comprising a
2 relational database (6) containing a set of target records, and a search engine (2) coupled with
3 the decision application server (1), activated by a query for selecting records based on given
4 criteria sent by the decision application server (1), characterized in that the engine (2)
5 includes means (8) for preconditioning data of the base (6) and installing an encoded table
6 (10) corresponding to the base (6) in a machine with vectorial capabilities (9), these means
7 (8) comprising:

8 - means (13) for reading a data file corresponding to the base;
9 - means (16) for building a nomenclature (17) for the values of the fields contained in
10 the file;

11 - means (15) for encoding fields in accordance with the nomenclature (17), taking the
12 nature of the fields and the relations to be implemented in the predicates into account in the
13 query;

14 - means (21) for analyzing queries sent by the decision application server (1), taking
15 into account the authorized relations, the constraints on the predicates and the nomenclature
16 (17); and

17 - means (22) for encoding the filtered query into a set of vectors containing the values
18 to be found in the fields in accordance with the associated relations, in the form of an input
19 file usable by the machine with vectorial capabilities (9). .

1 11. System according to claim 10, characterized in that it also includes means (23)
2 for extracting in plaintext the data searched for in the result file obtained as output from the
3 machine with vectorial capabilities (9), using search means installed in the decision
4 application server (1).

1 12. System according to either of claims 10 and 11, characterized in that it also
2 includes a management agent (24) that monitors the activity of the machine with vectorial
3 capabilities, handles abnormalities, and activates the search means in the machine with
4 vectorial capabilities (9).

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